

I claim:

1. An extendable bay assembly for a human habitat that includes a ceiling and an upright side wall, said side wall having an opening therein which has a lower edge, an upper edge and first and second side edges extending between the upper and lower edges, comprising:

(A) a compartment sized and adapted to be received in the opening in said side wall when in an assembled state, said compartment having a compartment interior and including a bottom, a top, a front panel and first and second spaced-apart side panels extending from said front panel to define a compartment depth with a dimension between said first and second side panels defining a compartment width and a dimension between said top and bottom defining a compartment height, said top including a cantilever portion extending a distance beyond the first and second side panels;

(B) a lower edge bearing element interposed between the lower edge of the opening and the bottom of said compartment when said compartment is in the assembled state and operative to support said compartment relative to the lower edge of the opening for sliding movement out of and into said habitat; and

(C) a cantilever bearing element interposed between the cantilever portion of said top and the ceiling of said habitat when said compartment is in the assembled state and operative to support said cantilever portion against the ceiling for sliding movement between a retracted position wherein said compartment is stored in the habitat and an extended position wherein said compartment extends outwardly of said habitat.

2. An extendable bay assembly according to claim 1 including a drive assembly associated with said compartment and said habitat and operative to move said compartment between the retracted and extended positions.

3. An extendable bay assembly according to claim 2 wherein said drive assembly is selected from a group consisting of: an articulating arm drive, a hydraulic drive, a rack and pinion drive and a screw drive.

4. An extendable bay assembly according to claim 1 wherein said compartment is rectangular in configuration such that said first and second side panels are in substantially parallel relationship to one another.

5. An extendable bay assembly according to claim 1 including an upper seal strip extending along an upper edge of the opening and positioned to slideably engage said top as said compartment is moved between the retracted and extended positions.

6. An extendable bay assembly according to claim 1 including first and second side seal strips extending, respectively, along first and second side edges of the opening and positioned, respectively, to slideably engage said first and second side panels as said compartment is moved between the retracted and extended positions.

7. An extendable bay assembly according to claim 1 wherein said lower edge bearing element extends along a majority of the compartment width.

8. An extendable bay assembly according to claim 1 wherein said cantilever bearing element extends along a majority of the compartment width.

9. An extendable bay assembly according to claim 1 including first and second side edge bearing elements interposed, respectively, between said first and second side panels and the first and second side edges of the opening when said

compartment is in the assembled state and operative to support said compartment relative to the first and second side edges of the opening for sliding movement out of and into said habitat.

10. An extendable bay assembly according to claim 9 wherein said first and second side bearing elements each extend for a majority of the compartment height.

11. An extendable bay assembly according to claim 1 including a plurality of cantilever bearing elements.

12. An extendable bay assembly according to claim 11 wherein each of said cantilever bearing elements is elongated and extends along a majority of the compartment width, said upper cantilever bearing elements being in substantially parallel spaced-apart relation to one another.

13. An extendable bay assembly according to claim 1 wherein said cantilever bearing element includes an elongated channel frame, an elongated cylindrical rod rotatably received in said channel frame and a plurality of bearings interfacing said channel frame and said rod.

14. An extendable bay assembly according to claim 13 wherein said rod is constructed of a plastic material.

15. An extendable bay assembly according to claim 1 wherein said top is defined by a flat top panel.

16. An extendable bay assembly according to claim 15 wherein said cantilever portion is formed as an integral one-piece extension of said top panel.

17. An extendable bay assembly according to claim 1 including an upper edge bearing element interposed between the upper edge of the opening and the top of said compartment when said compartment is in the assembled state and operative

to support said compartment relative to the upper edge of the opening for sliding movement out of and into said habitat.

18. An extendable bay assembly according to claim 1 including a bottom bearing element disposed on the bottom of said compartment in spaced relation to said front and operative to support said compartment for sliding movement out of and into said habitat.

19. An extendable bay assembly for a human habitat that includes a ceiling and an upright side wall, said side wall having an opening therein which has a lower edge, an upper edge and first and second side edges extending between the upper and lower edges, comprising:

- (A) a lower edge bearing element disposed at the lower edge of the opening;
- (B) an upper edge bearing element disposed at the upper edge of the opening;
- (C) first and second side edge bearing element respectively disposed at the first and second side edges of the opening;
- (D) a compartment sized and adapted to be received in the opening in said side wall when in an assembled state and supported by said lower edge bearing element, said upper edge bearing element and said first and second side edge bearing elements for sliding movement out of and into said habitat, said compartment having a compartment interior and including
 - (1) a bottom,
 - (2) a top spaced-apart from said bottom to define a compartment height,

- (3) a front panel and
- (4) first and second spaced-apart side panels extending between said top and bottom and rearwardly from said front to define a compartment depth with a dimension between said first and second side panels defining a compartment width, said top including a cantilever portion extending a distance beyond the first and second side panels;

(E) a bottom bearing element disposed on the bottom of said compartment in spaced relation to said front and operative to support a rear portion of said compartment for sliding movement out of and into said habitat;

(F) a cantilever bearing element disposed on the cantilever portion of said top and operative to support said cantilever portion against the ceiling for sliding movement between a retracted position wherein said compartment is stored in the habitat and an extended position wherein said compartment extends outwardly of said habitat; and

(G) a drive assembly associated with said compartment and said habitat and operative to move said compartment between the retracted and extended positions.

20. An extendable bay assembly according to claim 19 including an upper seal strip extending along an upper edge of the opening and positioned to slideably engage said top as said compartment is moved between the retracted and extended positions.

21. An extendable bay assembly according to claim 19 including first and second side seal strips extending, respectively, along first and second side edges of the opening and positioned, respectively, to slideably engage said first and second

side panels as said compartment is moved between the retracted and extended positions.

22. An extendable bay assembly according to claim 19 wherein said drive assembly is selected from a group consisting of: an articulating arm drive, a hydraulic drive, a rack and pinion drive and a screw drive.

23. An extendable bay assembly according to claim 19 wherein said lower edge bearing element is mounted on a lower edge portion of the opening and extends along a majority of the compartment width, wherein said upper edge bearing element is mounted on an upper edge portion of the opening and extends along a majority of the compartment width and wherein said first and second side edge bearing elements are respectively mounted on first and second side edge portions of the opening and extend along a majority of the compartment height.

24. An extendable bay assembly according to claim 19 wherein said cantilever bearing element extends along a majority of the compartment width.

25. An extendable bay assembly according to claim 24 including a plurality of cantilever bearing elements each disposed on the cantilever portion of said top and extending along a majority of the compartment width in generally parallel spaced-apart relation to one another and operative to support said cantilever portion against the ceiling for sliding movement between the retracted position and the extended position.

26. An extendable bay assembly according to claim 19 wherein each of said edge bearing elements includes an elongated channel frame, an elongated cylindrical rod rotatably received in said channel frame and a plurality of bearings interfacing said channel frame and said rod.

27. An extendable bay assembly according to claim 19 wherein said cantilever bearing element and said bottom bearing element each includes an elongated channel frame, an elongated cylindrical rod rotatably received in said channel frame and a plurality of bearings interfacing said channel frame and said rod.

28. An extendable bay assembly according to claim 19 wherein said top is defined by a flat top panel, said cantilever portion being formed as an integral one-piece extension of said top panel.

29. An extendable bay assembly for a human habitat that includes a ceiling and an upright side wall, said side wall having an opening therein which has a lower edge, an upper edge and first and second side edges extending between the upper and lower edges, comprising:

(A) a compartment sized and adapted to be received in the opening in said side wall when in a assembled state, said compartment having a compartment interior and including a bottom, a top, a front panel and first and second spaced-apart side panels extending rearwardly from said front panel to define a compartment depth with a dimension between said first and second side panels defining a compartment width and a dimension between said top and bottom defining a compartment height, said top including a cantilever portion extending a distance beyond the first and second side panels;

(B) edge bearing means for supporting said compartment relative to the opening for sliding movement out of and into said habitat;

(C) cantilever bearing means for supporting said cantilever portion against the ceiling for sliding movement between a retracted position wherein said

compartment is stored in the habitat and an extended position wherein said compartment extends outwardly of said habitat; and

(D) drive means for moving said compartment between the retracted and extended positions.

30. An extendable bay assembly according to claim 29 upper sealing means for slideably engaging said top and side seal means for slideably engaging said first and second side panel as said compartment is moved between the retracted and extended positions.

31. In a recreational vehicle including a ceiling, a floor and an upright side wall having an opening therein adapted to receive a slide-out bay which opening has a lower edge, an upper edge and first and second side edges, the improvement comprising a compartment sized and adapted to be received in the opening in said side wall for sliding movement out of and into said habitat, said compartment having a compartment interior and including a bottom, a top spaced-apart from said bottom to define a compartment height, a front panel and first and second spaced-apart side panels extending between said top and bottom and rearwardly from said front panel to define a compartment depth with a dimension between said first and second side panels defining a compartment width, said top including a cantilever portion extending a distance beyond the first and second side panels, an upper cantilever bearing element interposed between the cantilever portion of said top and the ceiling of said vehicle when said compartment is position in the opening and operative to support said cantilever portion against the ceiling for sliding movement between a retracted position wherein said compartment is stored in the vehicle and an extended position wherein said compartment extends outwardly of said vehicle.

32. The improvement according to claim 31 further including a drive assembly associated with said compartment and said habitat and operative to move said compartment between the retracted and extended positions.

33. The improvement according to claim 32 wherein said drive assembly is selected from a group consisting of: an articulating arm drive, a hydraulic drive, a rack and pinion drive and a screw drive.

34. The improvement according to claim 32 wherein the side wall of the vehicle includes a recess therein having an entryway, said drive assembly disposed in the recess.

35. The improvement according to claim 34 including a drive bracket disposed on said compartment, said drive assembly secured to said drive bracket.

36. The improvement according to claim 35 wherein said drive bracket is configured to be received in the entryway thereby to enclose said drive assembly in the recess.

37. The improvement according to claim 31 including a lower edge bearing element interposed between the lower edge of the opening and the bottom of said compartment when said compartment is in the assembled state and operative to support said compartment relative to the lower edge of the opening for sliding movement out of and into said vehicle.

38. The improvement according to claim 31 including an upper edge bearing element interposed between the upper edge of the opening and the top of said compartment when said compartment is in the assembled state and operative to support said compartment relative to the upper edge of the opening for sliding movement out of and into said vehicle.

39. The improvement according to claim 31 including first and second side edge bearing elements respectively interposed between the first and second side edges of the opening and the first and second side panels of said compartment when said compartment is in the assembled state and operative to support said compartment relative to the lower edge of the opening for sliding movement out of and into said vehicle.

40. The improvement according to claim 31 including a bottom bearing element disposed on the bottom of said compartment in spaced relation to said front and operative to support said compartment against the floor of the vehicle for sliding movement between the extended and retracted positions.

41. In a recreational vehicle including a ceiling, a floor and an upright side wall and having an opening in the side wall that has a lower edge, an upper edge and first and second side edges so as to be adapted to receive a slide-out compartment that has a top, a bottom, a front panel and a pair of spaced-apart side panels, a method of supporting said compartment for sliding movement between a retracted position and an extended position comprising:

(A) providing a cantilever structure associated with the top of said compartment so that said cantilever structure extends alongside the ceiling of the vehicle; and

(B) slideably supporting said cantilever structure against the ceiling as said compartment is moved between the retracted and extended positions.

42. A method according to claim 41 wherein the step of slideably supporting said cantilever structure is accomplished by rollably supporting the cantilever structure relative to the ceiling.

43. A method according to claim 41 including the step of rollably supporting the bottom of said compartment relative to the lower edge of the opening.

44. A method according to claim 41 including the step of rollably supporting the first and second side panels of said compartment relative to the first and second side edges of the opening, respectively.

45. A method according to claim 41 including the step of rollably supporting the bottom of said compartment relative to the floor of the vehicle.

46. A method according to claim 41 including the step of mechanically driving the compartment between the extended and retracted positions.